Docket No. AUS920010055US1

ABSTRACT OF THE DISCLOSURE

METHOD, APPARATUS, AND PROGRAM TO KEEP A JVM RUNNING
5 **DURING THE SHUTDOWN PROCESS OF A JAVA BASED SERVER**
EXECUTING DAEMON THREADS

A single normal Java thread referred to as a
"waiter" thread is used to prevent premature exit of the
10 Java Virtual Machine during the shutdown process of the
server application by waiting for any daemon threads in
the JVM to complete execution. Using this mechanism, any
daemon thread flagged by the application runs to
completion before the JVM is allowed to exit. Once all
15 flagged daemon threads exit, the waiter thread exits and
allows the server application to properly terminate.
The waiter thread uses an efficient mechanism to maintain
a queue of threads. When a daemon thread is flagged, it
is simply appended to the end of the queue. The waiter
20 thread waits for the first thread in the queue to
complete. Once the first thread in the queue completes,
it is removed from the queue. At this point, the queue
is searched for any other inactive threads and those
threads are also removed from the queue. This allows the
25 waiter thread to efficiently manage the queue and keep
the memory and resource requirements to a minimum.